REMARKS/ARGUMENTS

The parent PCT and foreign priority applications have been noted at specification page 1. The paragraph at page 3, lines 34-37 of the specification has been amended to include the reaction temperature specified in original Claim 7, which is a part of the original specification. The amendments to Claims 1 and 3 clarify these claims, and are supported by the claims as originally filed. New Claim 5 is supported at specification page 3, last line. New Claims 6 and 7 are supported at specification page 2, lines 31-32. New Claim 8 is supported at specification page 3, lines 30-34. New Claim 9 is supported at specification page 4, lines 10-16, as are new Claims 10-14. New Claims 15-19 are supported at specification page 2, lines 31-32. New Claim 20 is supported by original Claim 1. No new matter has been entered.

The obviousness rejection over Hund (U.S. 3,667,913) is traversed. The present invention relates to a specific process for the catalytic oxidation of hydrogen chloride to chlorine in the presence of oxygen using a specific catalyst comprising particular amounts of certain metals on a carrier, the carrier being selected from the group consisting of titanium dioxide, zirconium dioxide, aluminum oxide, and mixtures thereof. In the invention catalyst gold is applied to the support as an aqueous solution of a gold compound. See Claim 1. Hund relates to a chromium dioxide catalyst described as useful in the oxidation of hydrogen chloride to chlorine. The present catalyst does not rely on chromium dioxide. While Hund indicates that it is possible to combine the disclosed catalyst having a chromium dioxide basis with other oxidation catalysts at column 3, lines 44ff, there is absolutely no guidance provided with regard to which catalyst to select, and how much of each. Certainly, nothing in Hund points to the very specific catalyst presently claimed which requires gold and that the gold be applied to the support as an aqueous solution of a gold compound. In this regard, Hund does not suggest gold as an active metal on titanium dioxide, zirconium dioxide, or

aluminum oxide, or that the gold be applied to these carrier materials by impregnation with an aqueous gold solution. Rather, Hund merely teaches that it is chromium dioxide which is essential and which can be modified by further elements and compounds selected from a laundry list presented at column 3, lines 46-58 of the reference. Because there is no guidance in Hund that would lead one of ordinary skill in the art to the presently claimed process, including the use of the particularly claimed catalyst, Applicants respectfully submit that Hund does not render the pending claims unpatentable.

GB 1,263,806 (GB '806) relates to a very specific cationic exchanged 13X zeolite molecular sieve catalyst. See the paragraph bridging pages 1 and 2 of the reference. While this zeolite contains aluminum, it is not, however, an aluminum oxide carrier, as presently claimed. In this regard, see page 2, lines 47-70 of the reference describing the sieves as consisting of three dimensional frameworks of SiO_4 and AlO_4 tetrahedra, cross-linked by the sharing of oxygen atoms. This material excludes clays, etc. Thus, GB '806 teaches a very specific carrier, namely a particular13X zeolitic molecular sieve. The carriers of the present invention, titanium dioxide, zirconium dioxide, and aluminum oxide, are neither disclosed or suggested for use by the reference. As such, GB '806 cannot suggest the present process and its claimed use of a specific combination of gold as active metal on titanium dioxide, zirconium dioxide, aluminum oxide, or a mixture thereof, as presently claimed.

Trübenbach (U.S. 5,935,897) teaches a catalyst that is very different from the catalyst used in the present invention. The Trübenbach catalyst is prepared by shaping a mixture, e.g., of organic powder and metallic powder with a high volume (30 to 85% by volume) of a polymer binder followed by pyrolysis. See the passage bridging columns 2 and 3 of the reference. As claimed herein, the catalyst used in the presently claimed process is prepared by applying gold to the support as an aqueous solution of a gold compound. Moreover, while Trübenbach mentions, among many materials, almost each and every element of the Periodic

Table for possible inclusion, there is absolutely no guidance provided by the reference that would direct one of ordinary skill in the art to the catalyst described and used in the present claims. Moreover, the oxidation of hydrogen chloride is only mentioned as one process among many, and in which an expansively vast variety of possible catalyst combinations resulting from the combination of materials (I) with (II) and/or (III) according to the reference may be used. See column 11, line 6 – column 13, line 38 of the reference for example. As a result, Trübenbach does not and cannot suggest the use of the specific combination of gold on titanium dioxide, zirconium dioxide and/or aluminum oxide in a process for the catalytic oxidation of hydrogen chloride to chlorine, as presently claimed.

Accordingly, and for the reasons presented above, Applicants respectfully submit that the pending claims are patentably distinct from anything disclosed or suggested by the prior art, and the withdrawal of the outstanding rejections is respectfully requested. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

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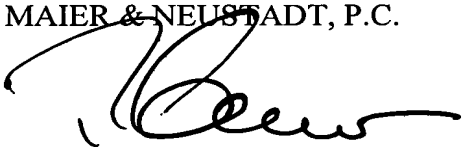

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